SUMMARY OF DISCUSSIONS BETWEEN

BWC AND MDNR - October 25 & 26, 1982

On the above dates K. Fry and C.W. Axce of BWC met with J. Shauver and various technical personnel of MDNR to determine the acceptable technical elements of a settlement of Civil Action No. 80-73699. The technical elements are presented in outline form. The final text is subject to approval of the Michigan Attorney General's office and BWC.

Schedule of Work: The time period of eleven months after December 1st of the year after any proposed consent decree is approved by the court for completion of the site is acceptable.

Shoreline Stability: The shoreline stability program as set forth in Item 1 of the Work Plan in BWC's October 1, 1982 program is acceptable.

Surface Water on the Site: The management of surface water as set forth in Item 2 of the Work Plan in BWC's October 1, 1982 program is acceptable.

Existing Borings and Wells: The State of Michigan will properly plug all borings and wells placed in the site by the State or its agents. The State will provide the location of borings made through the 60 foot clay layer underlying the site by others to the extent they can be located. BWC will be expected to plug such deep borings, if and when located, to prevent artesian flow from the underlying aquifer. Geological activity may have closed such bore holes by this time.

Initial Site Grading: The initial site grading plan as set forth in Item 4 of the Work Plan in BWC's October 1, 1982 program is acceptable.

Placement of the Compacted Cover:

1. Area: The area to be covered with a minimum of 24 inches of clay delineated in Revised Exhibit V, dated October 26, 1982 is acceptable.

2. Slope: A slope of 2% (± 4 inches per 100 feet) on the resultant compacted cover and clay loam cover is acceptable. The slope of the compacted cover may be any slope as long as the resultant combined slope is 2%. In the process of creating the slope BWC may move any material on the site so long as no material is moved from the area to be covered with compacted cover to an area that will not be so covered.

3. Drainage: No french drain system or other subsurface drain system will be required for the area covered with compacted material or elsewhere on the site. The surface drainage system (at approximately a 1/2% slope) which carries surface runoff of the compacted cover area or around the compacted cover area is acceptable. Revised Exhibit V dated October 26, 1982 showing said drainage system may be modified by BWC prior to construction with the written approval of Robert Curry of MDNR.

Material Specifications for Compacted Cover: Any clay or combination of clay that meets the specifications attached as DNR Exhibit I is acceptable. The compacted thickness must be a minimum of 24 inches over the areas delineated in 1, above. The material will be compacted to a standard of 1×10^{-7} cm/sec permeability.

Soil to Support Shallow Rooted Vegetative Cover: There is no minimum thickness required. BWC must establish and maintain a vegetative cover on the entire site.

Final Grade: A final grade that prevents standing water on the site is acceptable. An area of standing water for purposes of MDNR is an area where water stands for sufficient time and at a sufficient depth that the vegetative cover does not survive. The vegetative cover is the species of that population of plants found on the majority of the site.

Sampling Program: MDNR will require the following sampling program as a condition of any settlement.

1. Sampling of water in the interstitial voids (i.e. the water in the fill):

   a. Sample well location: MDNR will require the installation of wells at the nine (9) locations indicated on Revised Exhibit V dated October 26, 1982. BWC would have the option of moving any well up to 50 feet in any direction based on field conditions.

   b. Well construction: Due to the nature of analysis of the water from the wells MDNR will require the use of nominal two (2) inch galvanized pipe or an MDNR approved alternate for well construction. BWC may use selected sand packing where field conditions warrant.

c. Depth of wells: The deep wells extend to the stiff natural clay surface under the site. A deep well is required when the water level in the interstitial voids is more than six (6) feet above the natural clay layer. An eighteen (18) inch screen selected by BWC shall be placed one to two feet above the natural clay layer.

A second shallow well will be required adjacent to any deep well. The screen depth at the screen center line shall be 27 inches below the surface of the standing water in the interstitial voids.

Where the water level in the interstitial voids is six (6) feet or less a single well will be required with the screen depth center line being at the mid-point of the depth.

d. Sampling procedure:

1. The wells will not be pumped or evaculated before the sample is withdrawn.

2. The minimum volume of water required for analysis will be withdrawn.

Surface Water Samples from the Trenton Channel: The sample will be collected at the downstream boundary of the site in the Trenton Channel ten (10) feet from shore or where the water is ten (10) feet deep, whichever is greater. The sample shall be collected as close to the bottom as possible without including bottom or transported sediments. An upstream sampling location may be selected by BWC as a control point to show any change in the selected parameters.

Biomonitoring for Mercury and PCB's: MDNR and BWC shall agree on a downstream biomonitoring location for an analysis of mercury and PCB's using a selected test organism suspended in the water column. The biomonitoring will be conducted on a one-time basis and shall be completed within a three (3) year period after completion of the site modification work. The exposure of the test organism shall be limited to seven (7) days. The flesh of the test organism will be analyzed for mercury and PCB's. (See section on reporting analytical results.) An upstream sampling location may be selected by BWC as a control point to show any change in the level of mercury and PCB's in the flesh of the test organism.

Analysis of Water Samples: The analysis of water shall be limited to pentachlorophenol, benzo(a)pyrene, napthalene and arsenic. A special one-time analysis of water samples for mercury and PCB's must coincide with the biomonitoring program above. BWC may apply for permission to discontinue analysis of any parameter at any time. Such permission shall be granted by application unless MDNR specifically denies the request within 60 days of receipt of the application.

Sampling Schedule:

a. The initial sampling program shall be for a period of 3 years starting within 6 months of the completion of the site modification program. Subsequent samples shall be collected and analyzed every 90 days plus or minus 30 days for 3 years. The initial sampling program will include samples from the wells and the surface water from the Trenton Channel.

b. The second phase of the sampling program shall last for 2 years and is limited to analysis of water from the wells. Semi-annually, 2 composite samples shall be analyzed. MDNR shall select which wells are to be included for each composite within 60 days of application by BWC. In addition, one sample shall be analyzed annually for each well.

c. The final phase of the sampling program shall consist of 2 annual composite samples. The composite will be drawn from the wells as specified by MDNR under the second phase of the sampling program as described above.

d. BWC may apply for permission to discontinue sampling of any well at any time. Such permission shall be granted by application unless MDNR specifically denies the request within 60 days of receipt of the application.

Reporting Analytical Results: All values measured at or below 100 ppb shall be reported as detected and no numerical value provided. Values greater than 100 ppb shall be reported as whole numbers. The analytical results will be sent to MDNR within sixty (60) days of completion of the analytical test.

Changes in the Sampling or Analytical Program: BWC may request elimination of any sampling location or any parameter for any sampling location at any time. The request shall be made in writing. The request shall be granted unless specifically denied by the responsible MDNR official within sixty (60) days of the receipt of the request.

Measurement of Elevations: The measurement of the relative elevation of the surface water (Trenton Channel) to the water surface in the sampling wells is required quarterly for a three year period beginning within six (6) months of the completion of the site modification program. The results will be included in the report of analytical results discussed above.

DNR EXHIBIT I

EXCERPT FROM ACT 641 RULES

January 6, 1982

State of Michigan

R299.4305(10) Final cover shall be a minimum of 2 feet of soil compacted to not less than 90% of maximum dry density as determined by the modified proctor test, ASTM designation D1557-70. The cover material shall also be compacted at a moisture content which is not dryer than 2 percentage points below, nor wetter than 5 percentage points above, optimum mousture content as determined by the modified proctor test. The soil shall have a unified soil classification of ML, SC, CL, or CH, as determined by ASTM method D2487-69. ASTM methods D1557-70 and D2487-69 are incorporated in these rules by reference and are available for inspection at the Lansing office of the department of natural resources. Copies of ASTM procedure D2487-69 and D1557-70 may be purchased at a cost of $4.00 each, from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103, or from the Department of Natural Resources, Resource Recovery Division, P.O. Box 30028, Lansing, Michigan 48909, at a cost of $4.00 each. An approved alternative material, when properly sloped and protected, may be substituted for final soil cover if equivalent protection is provided.